APOHDSDI-VAN

1080P HD-SDI ANALOGUE CAMERA

User's Manual

V1.0 11 / 2013

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Welcome

Thank you for purchasing our **1080P HD-SDI ANALOGUE CAMERA**.

This user's manual is designed to be a reference tool for the installation and operation of your system.

Here you can find information about the corresponding analogue camera's features and functions, as well as a detailed installation method.

Before installation and operation please read the following safeguards and warnings carefully!

Important Safeguards and Warnings

1．Electrical safety

- All installation and operation here should conform to your local electrical safety codes.
- The power supply shall conform to the requirement in the SELV (Safety Extra Low Voltage) and must make sure that the limited power source is rated 12V DC.

  Please note: Do not connect two power supplying sources to the device at the same time; it may result in device damage!

- We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.
- We are not liable for any problems caused by unauthorized modification or attempted repair.

2．Transportation Security

- Please ensure that the product does not endure heavy stresses, violent vibration or contact with water during transportation, storage and installation.
- Please use the original packing material (or the material of the same quality) if you need to return it to vendor.

3．Installation

- Do not apply power to the product before completing installation.
- Do not put object(s) on the product.
- Please install a proper power cut-off device during the installation connection.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers. We are not liable for any problems caused by unauthorised modifications or attempted repair.

5. Environment

- This product should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
- Please keep it away from environments that contain electromagnetic radiation or objects that produce it.
- Please keep sound ventilation around the device at all times.
- Do not allow the water and other liquid to penetrate into the device if casing has been compromised. This series product complies with the IP66 standard specified in the Degrees of Protection Provided by Enclosure.
- Ensure lightning surge protection is in place to make sure you fully protect camera circuitry from electrical overload.

- Please make sure the CCD (CMOS) component is away from the radiation of the laser beam device. Otherwise it may result in CCD (CMOS) optical component damage.
- It is recommended that the grounding studs of the product should be grounded, so to further enhance the reliability of the camera.

6. Daily Maintenance

- Please shut down the device and then unplug the power cable before you begin any maintenance work.
- Do not touch the CCD (CMOS) optic component. Please use an air jet to clean the dust off the lens surface. You can use the dry cloth with some alcohol or mild detergent to clear if necessary.
- When the camera is not in use please put the dustproof cap to protect the CCD (CMOS) component.
- Do not use volatile solvent such as the benzene, paint thinner or detergent with the ability to abrade surfaces. It may result in lens damage or adversely affect the device's performance.

7. Accessories

Always use all the accessories recommended by manufacturer.

Before installation, please open the package and check that all the components are included. Contact your local retailer/vendor ASAP if something is missing.

8. Box Contents:

Accessory Name	Amount
Camera Unit	1
User's Manual	1
Installation Accessories Bag	1
CD	1

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1 General Introduction

1.1 Overview

This type of camera conforms to the HD-SDI specifications. It supports high speed video signal, which means there is almost no delay in the transmission. The HD-SDI interface uses the coaxial cable to transmit video signals and uses the BNC port as the cable standard.

The main benefit to this camera is its ability to record in 1080P HD definition, providing excellent quality video imagery to monitor. It also uses DC 12V for a power supply and you can use an inbuilt OSD button function to adjust internal camera settings.

1.2 Features

Data Transmission	● Coaxial cable. ● Use the BNC port as the cable standard.
Peripheral Equipment	● Support peripheral equipment connections via the RS485 port. ● Supports various peripheral device control protocols. .
Power	● External power adapter. Supports a DC 12V power supply.
Assistant Function	● Day/Night mode auto switch (**ICR switch.**) ● Supports OSD button function. ● Supports 1080P@25fps, 1080P@30fps, 720P@25fps, 720P@30fps, 720P@50fps, 720P@60fps. ● Supports WDR (Wide Dynamic Range). ● Supports anti-flicker. ● Supports HLC (Highlight Compensation). ● Backlight compensation: auto screen split to allow backlight compensation to adjust the brightness.

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1.3 Specifications

1.3.1 Performance

Please refer to the following sheet for digital camera performance specification:

Parameter \ Model		APOHDSDI-EYE
System	Main Processor	High performance processor
Video Parameters	Image Sensor	1/3-inch CMOS
	Pixel	1920(H)*1080(V)
	Day/Night	Supports day/night mode switch and IR-CUT at the same time.
	Auto Iris	DC drive
	Gain Control	Fixed/Auto
	White Balance	Manual/Auto/Day/Night
	Exposure	Manual/Auto PAL: It ranges from 1/3 to 1/10000. NTSC: It ranges from 1/4 to 1/10000.
	Video Frame Rate	Conform to the SDI specifications SMPT274/292 protocol
	Video Bit Rate	PAL：1920*1080@25fps, 1280*720@25 fps, 1280*720@50 fps； NTSC：1920*1080@30fps, 1280*720@30 fps, 1280*720@60 fps
	Mirror	Support mirror and flip
	Aux Function	Support WDR, HLC, BLC, anti-flicker, low motion blur, low noise, 3D NR, motion detect, privacy mask
	Image	Support parameter setup such as brightness, contrast.
	Video Information	OSD menu
	Lens Interface	M12 lens, 6mm (3.6mm optional)
AUX Interface	Video Output	1-channel HD-SDI output
	RS485 Port	May set image and OSD.
General Parameters	Power	Supports: DC 12V power & AC 24V
	Power Consumption	10W MAX (12W MAX with ICR switch)
	IR	20m
	Protective Level	IP66
	Working Temperature	-10°C~+60°C
	Working Humidify	≤95%
	Dimensions (Unit: mm)	Φ160×118.5
	Weight	1.25Kg (without packaging)
	Installation	Support various installation modes（Enclosure and bracket are optional）

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2 Framework

Camera's dimension and structure information is shown below. The units are in mm. See Figure 2-1 and Figure 2-2:

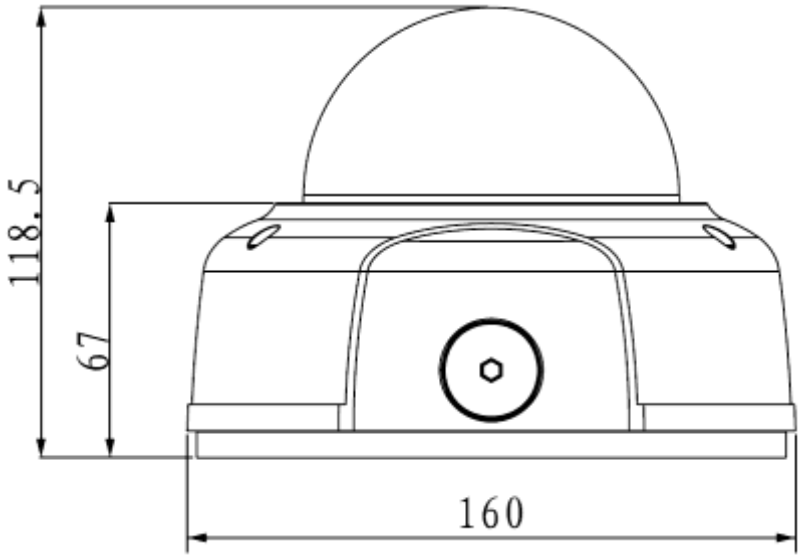

Figure 2-1

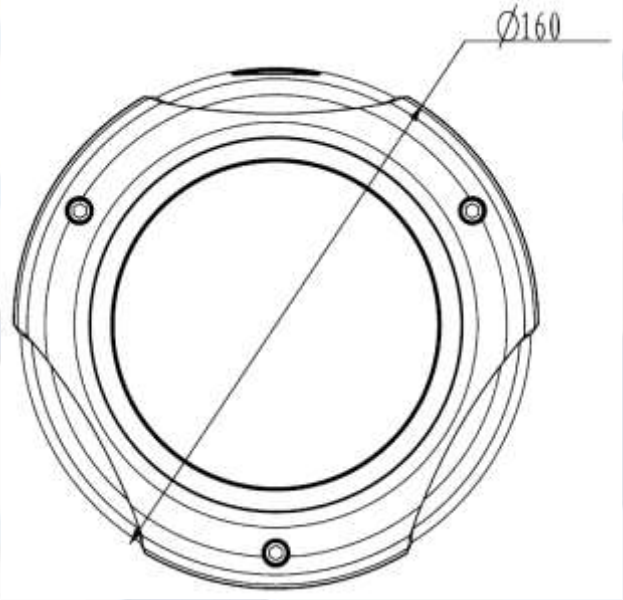

Figure 2-2

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3 Installation

IMPORTANT: Before the installation, please make sure the installation surface can sustain at least 3X weight of the bracket and the camera.

3.1 Device Installation

STEP 1

Use the inner hexagonal wrench (provided) to loosen the three inner hexagonal screws within the dome cover and then open the cover. See Figure 3-1.

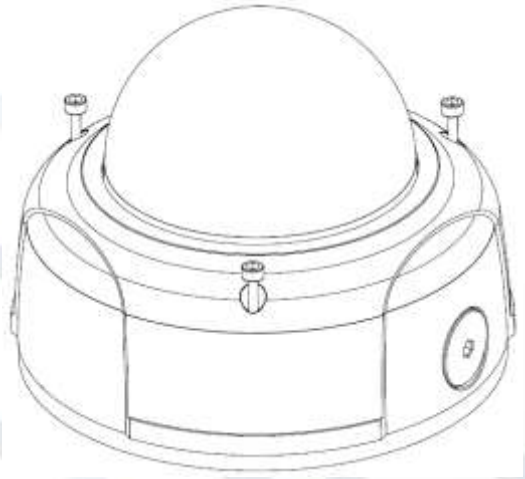
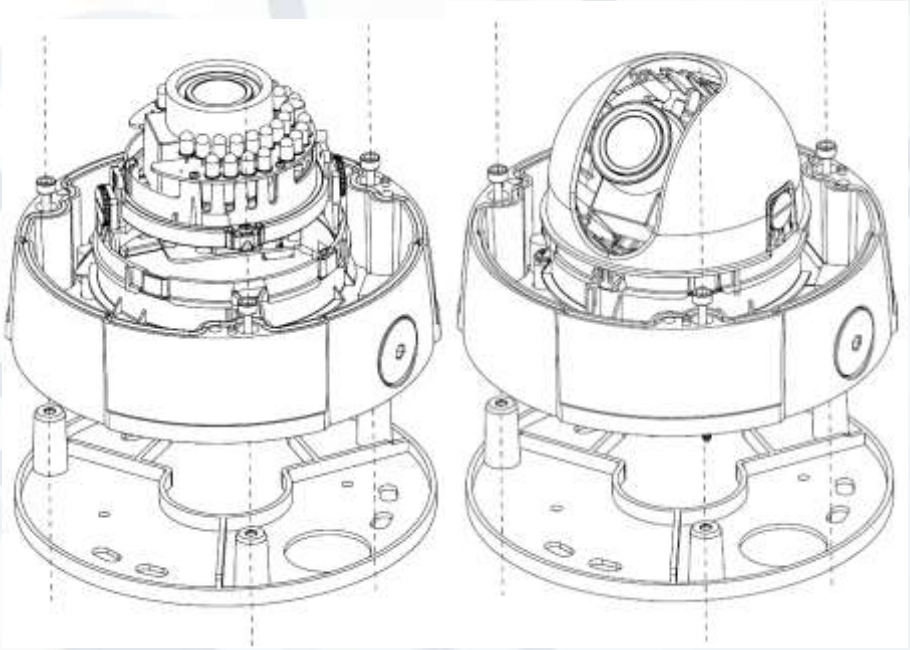


Figure 3-1

STEP 2

Use the inner hexagonal wrench (provided) to loosen the three inner hexagonal screws in the dome and then remove the device pedestal. See Figure 3-2.



With IR light **Without IR light**

Figure 3-2

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STEP 3

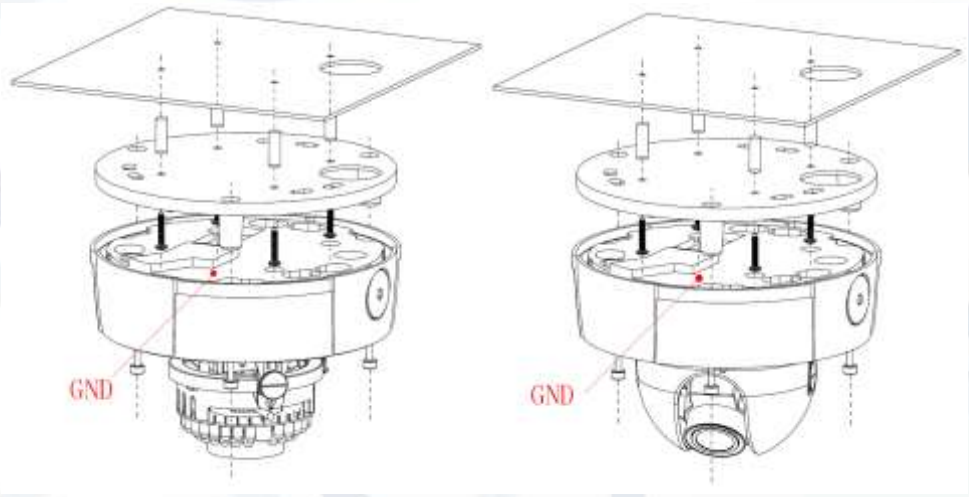
Draw out the cable's exit hole and four screw holes upon the installation position according to the device pedestal. Drill the four plastic expansion bolt and the cable's exit holes. Insert the four plastic expansion bolts into the screw holes.

STEP 4

Adjust the camera pedestal to the correct position and then thread the cable through the cable exit, which you have just drilled in the ceiling/wall. Line up the four screw holes, in the device pedestal, to the four plastic expansion bolt holes in the installation position. Put the four self-tapping screws in the device pedestal and then use the screwdriver to secure the screws in the four plastic expansion bolts firmly.

STEP 5

Adjust the device's position and line up the three inner hexagon screws of the device to the three holes of the installation's position. Put the three inner hexagon screws into the screw holes at the bottom of the pedestal. Use the inner hexagon screwdriver to fix firmly into place. Connect the ground cable to the GND port to improve stability. See Figure 3-3.



With IR light **Without IR light**

Figure 3-3

STEP 6

Adjust the X/Y/Z axis of the module to turn the device to the desired monitoring angle. Please follow the steps listed below to adjust camera correctly. See Figure 3-4.

Please note, for the dome of the IR light, you can skip step **A.** and step **E**.

A. Slightly push in the two sides so you can squeeze the plastic hook to take off the dome enclosure.

B. Manually loosen the screws slightly at the two sides of the X-Y-Z module. You can adjust the module tilt rotation angle to somewhere between 15° ～90° .

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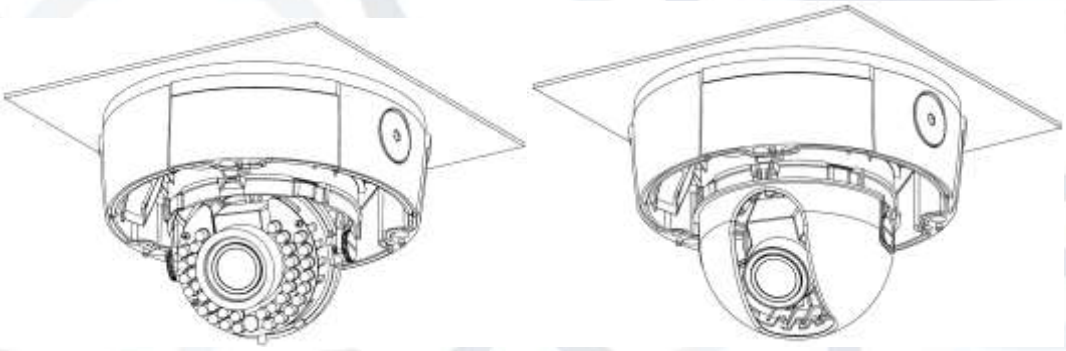
C. Slightly loosen the screw on the pressing slice. You can adjust the video rotation angle of the module to somewhere between 0° ～ 355°.

D. Adjust the turning ring of the pedestal; you can adjust the module pan rotation angle to somewhere between 0° ～ 355°.

E. Put the enclosure back on after you have completed the setup.



With IR light **Without IR light**

Figure 3-4

Please note, the screws in the following figure are found on the optical adjustment component. Please make sure the optical adjustment component is facing outward to make sure it is not touching the X-Y-Z axis module. See Figure 3-5.

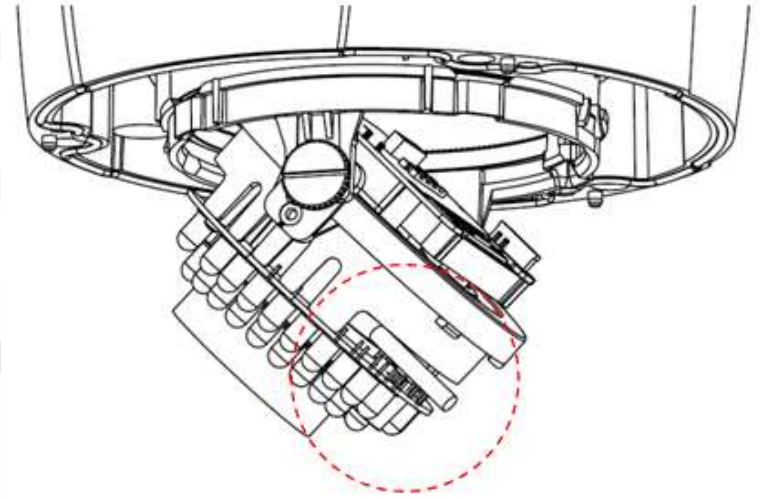


Figure 3-5

STEP 7

Put the dome cover back and then put the three inner hexagon screws into the holes of the device. Use the inner hexagonal wrench to fasten these three screws tightly. See Figure 3-6.

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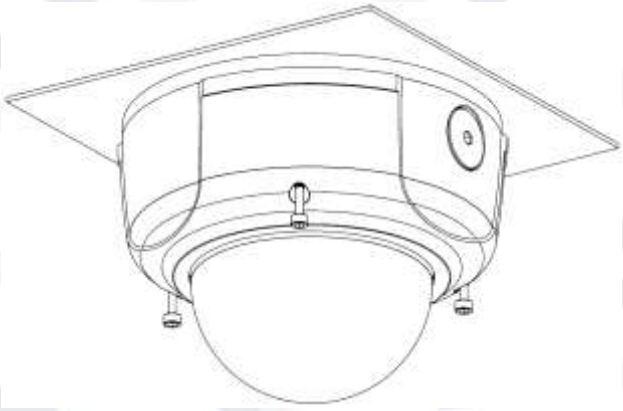


Figure 3-6

3.2 Lens Adjustment

STEP 1

Manually loosen the screw B slightly and then turn screw B slowly. Adjust the lens focus distance to the desired position according to the monitor video. See Figure 3-7.

STEP 2

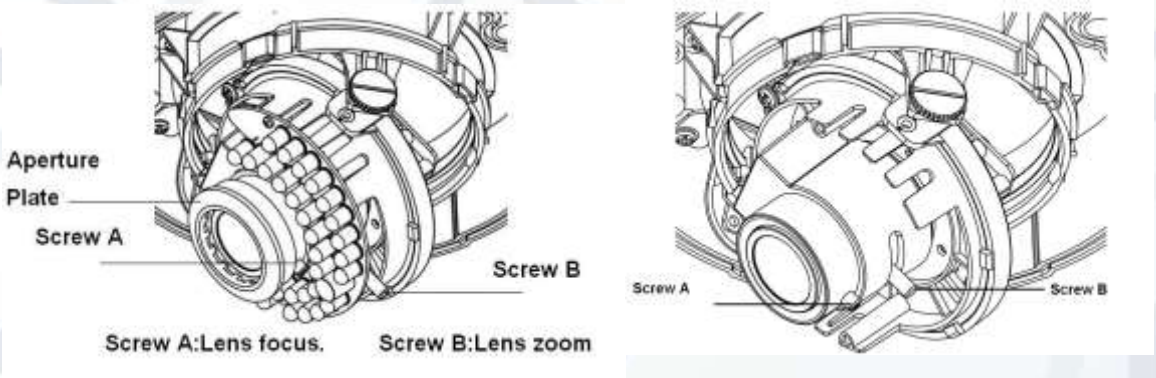
Use a flat screwdriver to loosen screw A slightly and then turn it slowly. Adjust the lens focus to get obtain a clear video image and then use the flat screwdriver to secure the screw firmly.

STEP 3

When you are adjusting screw A, the video may become blurry. Please manually adjust the screw B slightly to achieve the best quality vivid video image. Finally fix the screw into place.

STEP4

Lay the aperture plate on the lens so that it is flat against it. Please note this step is for IR device only.



With IR light **Without IR light**

Figure 3-7

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4 OSD Button

To be able to access the camera's main settings press and hold down the button (highlighted in red in Figure 4-1) for over 5 seconds until the menu interface appears. Press and hold down the same button for a couple of seconds to confirm any change in the settings.

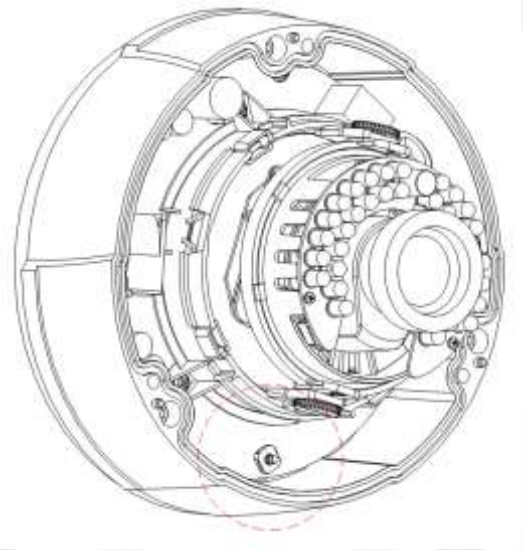

Figure 4-1

Push the button up/down to select the corresponding item and then push the button left/right to adjust the parameter. See Figure 4-2.

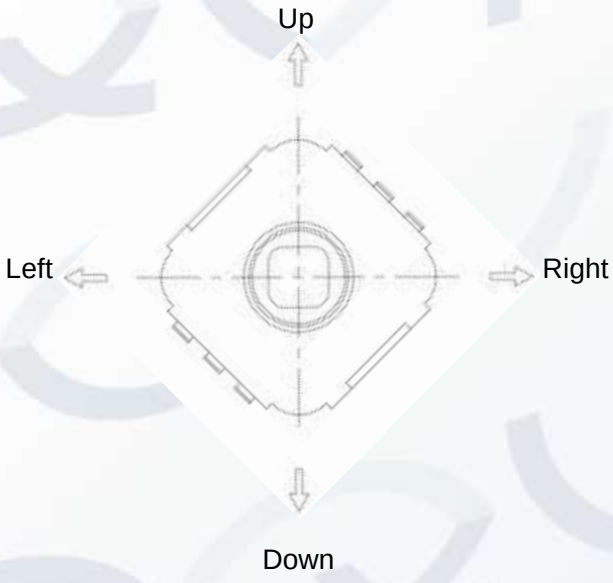

Figure 4-2

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5 OSD Setup Menu

The OSD setup interface is shown in Figure 5-1.

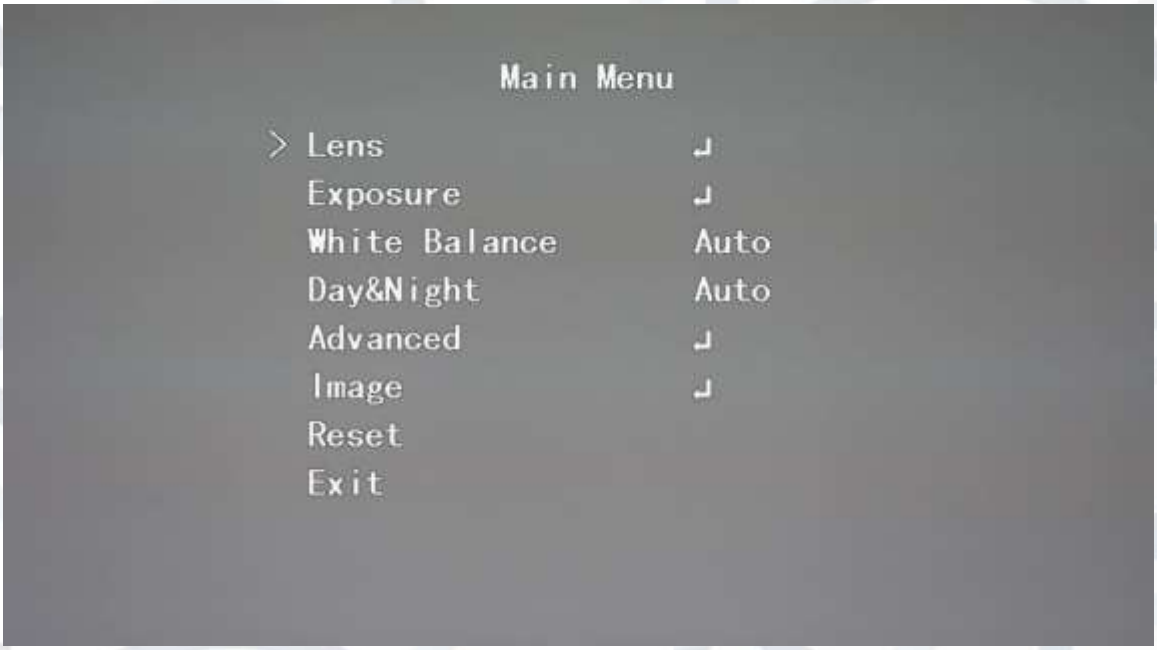

Figure 5-1 OSD setup

Please see the table below for more information about the options and modes to choose from within the OSD setup menus:

Parameter				**Note**
Lens				Mode: manual
Exposure	Exposure	Auto		-
		Low noise	Gain Max	0~ 100
			Gain Min	0~ 100
		Low Motion Blur	Shutter Max	P：0~ 40ms N：0~ 33ms
			Shutter Min	P：0~ 40ms N：0~ 33ms
		Manual	Shutter	1/100000,1、10000， 1/4000, 1/2000, 1/1000, 1/500, 1/250, 1/120, 1/100, 1/60, 1/50, 1/30, 1/25, 1/15, 1/12, 1/10, 1/8, 1/6, 1/5, 1/4, 1/3, custom
			Shutter Max	0~ 300ms
			Shutter Min	0~ 300ms
			Gain Max	0~ 100
			Gain Min	0~ 100

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	Anti-flicker（outdoor, 50HZ, 60HZ）		• 50HZ: 1/10000, 1/4000, 1/2000, 1/1000, 1/500, 1/250, 1/100, 1/50, 1/25, 1/12, 1/10, 1/6, 1/5, 1/4, 1/3 • 60HZ: 1/10000, 1/4000, 1/2000, 1/1000, 1/500, 1/250, 1/120, 1/60, 1/30, 1/15, 1/12, 1/8, 1/6, 1/4, custom Note: 50HZ and 60HZ modes have different exposure levels without low motion blur or low noise.
	BLC	BLC	BLC/WDR/HLC Note: You can enable only one mode at once. 0 means off.
		BLC	On, off
		WDR	0~ 100
		HLC	0~ 100 Note: Only auto exposure and outdoor anti-flicker have this function.
White Balance	White Balance		Auto/Manual/Day/Night
	Blue		0~ 100
	Red		0~ 100
Day&Night			Auto/BW/color
Advanced	Camera Name		Input up to 22 characters.
	Mirror	Mirror	On, off
		Flip	On, off
	Motion	Motion	On, off
		Area Sel	0 ~3
		Area State	On, off
		Sensitivity	0 ~ 100
		Threshold	0 ~ 100
		Area Setup	Position, size **Note**: Adjust position and size via arrow key.
		Default	Area 30, display off, sensitivity 50
	Privacy Mask	Privacy Mask	On, off
		Area Sel	0 ~ 7
		Area State	On, off
		Area Setup	Position, size Note: Adjust position and size via arrow key.
		Default	Display off
	Language		English
	COM Setup	Address	1~ 254
		Baud rate	115200, 38400, 9600, 2400
		Apply	Click on Apply when you modified setup.
Image	3DNR		0~ 100
	Sharpness		0~ 100
	Brightness		0~ 100
	Contrast		0~ 100
	Saturation		0~ 100
	Video		1080P@25, 1080P@30, 720P@25, 720P@30, 720P@50, 720P@60
Default			Except video and language, restore all default.

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6 FAQ

Bug	Solution / Reason
I cannot boot up the device or operate it properly.	Please click the RESET button for at least five seconds to restore factory default setup.
The water has leaked into the camera casing	● The unauthorised front or rear cap removal many result in water leaking into the camera housing. ● The glass front cap has sustained a heavy knock or strike. ● The waterproof plug of the rear cap has come loose.
IR video is poor.	● The Incorrect supply power has been used. The IR light cannot provide illumination up to its maximum level. ● The object being monitored/focused upon is out of the IR distance range. ● IR-CUT does not turn to the night mode. The front end photosensitive chip cannot sense the IR light.
I cannot upgrade the device via network.	When network upgrade operation has failed, you can use port 3800 to continue upgrade.
I cannot login to the client-end or the WEB online service.	● The Active X control is blocked. ● The display card version needs to be DX8.1 or higher. ● Network connection error has occurred. ● Invalid network setup. ● Invalid user name or password.
I cannot play the download file.	● There is no video player installed. ● There is no DX8.1 or higher installed.
To guarantee setup update once you have completed it	After you have modified setup, please reboot the device via the software to make sure the setup has been updated to the storage medium.
Power adapter	● The general power adapter can only work reliably within the temperature range of between 0℃ to 40 ℃. If the power supply is being operated outside this temperature range then this may result in an unstable power supply being provided to the camera. ● Please replace with an industrial-grade power adapter if you are using it in a harsh environment.

Note

- **This user's manual is for reference only. Slight differences may be found in user interface.**
- **All the designs and software here are subject to change without prior written notice.**

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